DECEMBER 28, 1896

VOL. X, PP. 139-144

PROCEEDINGS

OF THE

BIOLOGICAL SOCIETY OF WASHINGTON

THE SKUNKS OF THE GENUS *MEPHITIS* OF EASTERN NORTH AMERICA.

BY OUTRAM BANGS.

In 1895 * I described a new skunk from Florida as a subspecies of the northern Mephitis mephitica (Shaw), and at the same time reviewed, in rather an informal way, the eastern members of the genus Mephitis. Since then I have learned more about the distribution of the eastern skunks and have seen many additional specimens, so that some of my former views have changed. I now consider the Florida elongata entitled to specific rank, and still another form from the Mississippi Valley entitled to recognition. The latter form, which I shall call Mephitis mephitica scrutator, is common in the pine and prairie region of central Louisiana, and extends northward up the Mississippi Valley and eastward through the Alleghany Mountains, gradually shading into true mephitica. Specimens from the central region from Virginia to Maine are typical of neither form. М. mephitica typica occurs only in high Canadian and Hudsonian regions. M. elongata is abundant, though locally distributed, over the greater part of peninsular Florida and extends up the Atlantic coast at least to southern South Carolina or northern Georgia, where it gradually ceases, and no skunk is found throughout eastern North Carolina, † thus leaving elongata and mephitica

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^{*}Notes on North American Mammals, Proc. Boston Soc. Nat. Hist., vol. xxvi, author's edition, July 31, 1895.

[†] Messrs. H. H. and C. S. Brimley, in fourteen years of constant collecting about Raleigh, N. C., have never seen a skunk there, and have only known one to be reported as having been killed. I have made many inquiries of farmers throughout eastern North Carolina and have always got the same answer, that there are no skunks there. Of course, *elongata* or *mephitica* might be expected to occur occasionally as stragglers.

Bangs—Skunks of Eastern North America.

separated by a wide area in the east. Just what forms the western limit of the range of *M. elongata* I am unable to say, but probably it is the heavy swamps of the lower Mississippi.

MEPHITIS MEPHITICA (Shaw).

1792. Viverra mephilica Shaw, Museum Leverianum, 1792, p. 172. 1857. Mephilis mephilica Baird, Mamm. N. Am., 1857, p. 195.

Geographic distribution.—Whole of eastern North America from Ontario, Quebec, and Nova Scotia to Louisiana, except Florida and the coast belt from thence to Virginia. Its range may overlap that of *M. elongata* in the lower Mississippi Valley, and undoubtedly does overlap the range of *M. hudsonica* * in the upper Mississippi Valley.

Description.—Size small to medium; tail short to medium, tapering to a pencil; color pattern variable, but usually black all over except frontal stripe, nuchal patch, two strips extending from nuchal patch to and down sides of tail, tip of tail and some scattered hairs in black part of tail, all of which are white.

Fully adult males vary in size according to locality : total length, 595-682; tail vertebræ, 171-241; hind foot, 64-83.

M. mephitica is distinguished from *M. hudsonica* by smaller size, shorter tail, tapering to a pencil, and smaller and less elongated skull. It is separated from *M. elongata* by heavier build, much shorter tail, and proportionally shorter and broader hind foot.

This species may be divided into two well-marked subspecies, Mephitis mephitica mephitica and M. mephitica scrutator.

Mephitis mephitica mephitica (Shaw).

1792. Viverra mephilica Shaw, Museum Leverianum, 1792, p. 172.

1895. Mephitis mephitica Bangs, Proc. Boston Soc. Nat. Hist., Vol. XXVI. Anthor's edition, July 31, 1895. (Name restricted to the Hudsonian form.)

Type locality.—North America.

Geographic distribution.—Boreal eastern North America; Nova Scotia, Quebec, and Ontario south to about the northern limits of the United States. Western limit of range unknown.

General characters.—Size large; tail short, tapering off to a pencil; feet very broad and long; heel usually covered with hair, rest of sole naked;

* Mephitis hudsonica (Richardson) extends eastward to Minnesota and probably to western Ontario. It is a very big skunk, fully adult males measuring: total length, 690; tail vertebræ, 255; hind foot, 83, and larger. The skull is large and long and the dentition heavy. The palate ends in an even curve, without median spine. The color pattern varies but little. The tail is long, very heavily haired, and has a blunt brush-like end, around which the long hairs of the sides of the tail fall,

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markings very constant, varying only in a trifling difference of length and width of the two lateral white stripes.

Color.—A narrow frontal stripe, nuchal patch, and two lateral bands extending from nuchal patch to and down sides of tail, white; tip of tail often white; many white or half white hairs mixed in tail; rest of head, body, tail, arms, and legs, black. Varies in a slight degree only. Occasionally the white stripes reach only to the middle of sides of back; the stripes vary in width but little.

Cranial characters.—Skull large and massive, the palate ending in an even curve, without median spine. Size of an old adult male skull (No. 3805, Bangs collection from Lake Edward, Quebec): basilar length, 71.6; occipitonasal length, 74.6; zygomatic breadth, 52; mastoid breadth, 43.8; greatest length of single half of mandible, 52.8. Size of an old adult female skull (No. 3802, Bangs coll. from Lake Edward, Quebec): basilar length, 65.2; occipitonasal length, 67.2; zygomatic breadth, 47.6; mastoid breadth, 40.8; greatest length of single half of mandible, 50.—

Size.—Old adult \mathcal{J} (No. 2022, Bangs coll. from Digby, Nova Scotia): total length, 682; tail vertebræ, 171; hind foot, 83. Old adult \mathcal{Q} (No. 3802, Bangs coll. from Lake Edward, Quebec): total length, 565; tail vertebræ, 159; hind foot, 75.

General remarks.—The constancy of the markings of Mephitis mephitica typica and the absence of the median spine of the palate are both characters it possesses in common with the big-tailed western species of the hudsonica group, from which it differs, however, in its shorter tail, tapering to a pencil, and its smaller size. Its range is very restricted. In its extreme form it occurs only in a narrow belt, including the upper edge of the Canadian and lower edge of the Hudsonian zones. Its exact northern limit is unknown to me, but the evidence seems to indicate that it does not reach very far north. A long line of intermediates extends southward from northern Maine until the other extreme, M. m. scrutator, is reached in the lower Mississippi Valley.

Mephitis mephitica scrutator subsp. nov.

Type from Cartville, Acadia Parish, Louisiana. No. 2889, \mathcal{J} old adult, collection of E. A. and O. Bangs. Collected by F. L. Small May 25, 1895. Original No. 1842.

Geographic distribution.—Pine and prairie regions of central Louisiana, extending up the Mississippi Valley to Indiana and eastward across the Alleghanies to Virginia, and thence northward, gradually becoming less typical, until it merges into true *mephitica*.

General characters.—Size small; tail medium (actually longer than in *mephitica typica*), tapering off to a pencil; feet very small; markings very variable.

Color.—Color and markings as in true *mephilica*, but much more variable. The two lateral white stripes are often so wide as to meet on the back for nearly their whole length, forming the predominating color of the upper parts. In other specimens the lateral stripes are reduced to

two small points of white projecting backward from the nuchal patch, the rest of the upper parts, except the frontal stripe and nuchal patch, being black.

Cranial characters.—Skull much smaller and lighter than that of M. mephitica typica; palate ending in a median spine, not always large, but even when much reduced giving a very different outline to end of palate from that of mephitica typica. Size of the type skull (an old adult $\overline{\mathcal{O}}$): basilar length, 60; occipitonasal length, 63.2; zygomatic breadth, 44; mastoid breadth, 35; greatest length of single half of mandible, 45.6. An old adult φ (No. 2886, Bangs collection from Point aux Loups Springs, Acadia Parish, La.): basilar length, 57.4; occipitonasal length, 62.2; zygomatic breadth, 38.8; mastoid breadth, 35; greatest length of single half of mandible, 43.

Size.—Old adult \bigcirc type: total length, 580; tail vertebræ, 208; hind foot, 64. Old adult \heartsuit (No. 2886, Bangs coll., from Point aux Loups Springs, Acadia Parish, La.): total length, 594; tail vertebræ, 233; hind foot, 67.

General remarks.—Among the intergrades between this form and mephitica typica that occur through the New England and Middle States, but especially northward, examples can be found both with and without the median spine at the end of the palate. No specimen that I have ever seen of Mephitis mephitica typica, however, has shown any approach to such a spine, not even the very young examples, while it is present, in a varying degree, in every skull of scrutator examined.

MEPHITIS ELONGATA Bangs.

1895. Mephitis mephitica elongata Bangs, Proc. Boston Soc. Nat. Hist., Vol. XXVI. Author's edition, July 31, 1895, p. 3.

Type locality.-Micco, Brevard Co., Florida.

Geographic distribution.—Peninsular Florida, north along the coast to southern South Carolina; western limit of range unknown. Rare in the northern part of its range; locally distributed everywhere.

General characters.—Size large, but of lighter build than *M. mephitica*; tail very long, tapering to a pencil; feet very long and slender; color and markings very variable.

Color.—Color and markings as in *Mephitis mephitica scrutator* and subject to the same range of individual variation. One specimen is all black except the tip of the tail and the nuchal patch, even the usual white frontal stripe being entirely wanting. Another has most of the tail and the whole back, except a narrow median line on the rump, white.

Cranial characters.—Skull large, about the size of that of Mephitis mephitica typica, always with a large median spine at end of palate.

Size of an old adult \mathcal{F} skull (No. 3052, Bangs coll., topotype): basilar length, 66.4; occipitonasal length, 71; zygomatic breadth, 49.2; mastoid breadth, 40; greatest length of single half of mandible, 50.8. An old adult \mathcal{Q} skull (No. 2484, Bangs coll., from Blitches Ferry, Citrus Co.,

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Fla.): basilar length, 59.6; occipitonasal length, 62.2; zygomatic breadth, 45.4; mastoid breadth, 35.8; greatest length of single half of mandible, 46.4.

Size.—Old adult \mathcal{J}^{1} (topotype, No. 3052, Bangs coll.): total length, 719; tail vertebræ, 321; hind foot, 76. An old adult \mathcal{Q} (No. 2483, Bangs coll., from Blitches Ferry, Citrus Co., Fla.): total length, 673; tail vertebræ, 330; hind foot, 70.

General remarks.—Mephitis elongata is very different from M. mephitica, and its characters are constant throughout its range. Since I can find no indication of intergradation and the ranges of the two forms are separated, at least in the east, by a strip of neutral ground, where no skunk occurs, M. elongata seems entitled to rank as a full species.

(Measurements on next page.)

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Individual Measurements of a Series of Eastern Skunks (genus Mephitis).

Number.	Locality.	Sex.	Age.	Total length.	Tail vertebræ.	Hind foot.	Measured by	
Mephitis mephitica mephitica (Shaw).								
3801* 3803 3804	Qnebec, Lake Edward	09.9.9	Old adult Adult Adult	585.0 617.0 592.0	193.0 182.0 182.0	$\begin{array}{c} 79.0 \\ 76.0 \end{array}$	O. Bangs.	

3802							
	Nova Scotia, Digby						
	Nova Scotia, Annapolis						
3942†	Ontario, North Bay						
3941		Ŷ	Old adult	590.0	170.0	65.0	66 66
3945	Ontario, Little Pick River	ð	Old adult	580.0	190.0	75.0	66 66

Intermediates.

		1	1	1				
2684*	Maine, Upton	ð	Old adult	660.0	280.0	70.0	James	Bernier.
2683	¢, °¢,		Old adult	612.0	217.0	68.0	66	66
2685	\$¢ \$\$	8	Young adult.	595.0	206.0	65.0	66	44
2686	66 64	Ŷ	Young adult	625 0	209.0	70.0	6.6	
2433	Maine, Bucksport	Ý	Old adult	544.0	169.0	62.0	O. Ba	nore
5450	Massachusetts, Wareham		Old adult		220.0	68.0		
1705	44 6x				200.0	68.5		.6
797	64 66 <u></u>				225.0	66.0		
5449	66 66				199.0	63.0	6.	
1706	66 66				251.0	61.0	64 I	
1709	56 Ga -	1			248.0	64.0		.6
798	66 66	5	Adult		242.0	63.0	46 U	6
1707	66 66	- A	Adult		244.0	61.0	66 I	
2372	Connecticut, Liberty Hill				239.0	63.0	66 1	
2370	si ii ii				278.0	67.0	66 0	
1050	66 66 65			565.0	252.0	63.0	66 9	4
2416		4	Adult		252.0	60.5	66 6	
		+	and allowers	001.0	200.0	00.0		

Mephitis mephitica scrutator nov.

2892 2891 2890 2889 2886 2886	Louisiana, Point aux Loups Springs	00000	Old adult Old adult Adult Old adult	567.0 563.0 580.0 594.0	224.0 219.0 208.0 233.0	62.0 62.0 64.0 67.0	56 56 65	Small. " "
2887	•• •• •• •• •• ••	ģ	Adult	585.0	228.0	62.0	66	66
2888	Louisiana, Cartville	Ŷ	Adult	518.0	210.0	56.0	66	66

Mephitis elongata Bangs.

* Collection of E. A. and O. Bangs, Boston, Massachusetts. † Collection of Gerrit S. Miller, Jr., Peterboro, New York.